

2025-05-20 09:45:20

FIG. 1

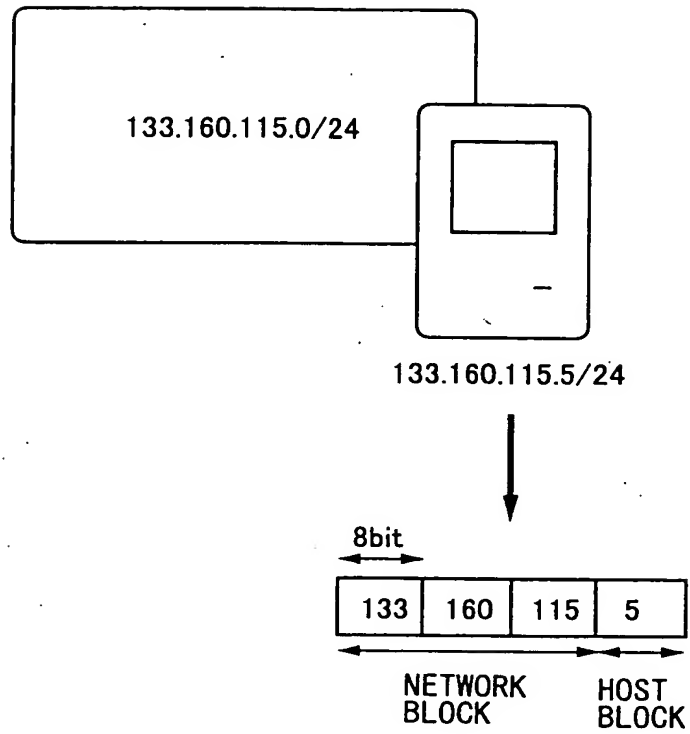


FIG. 2

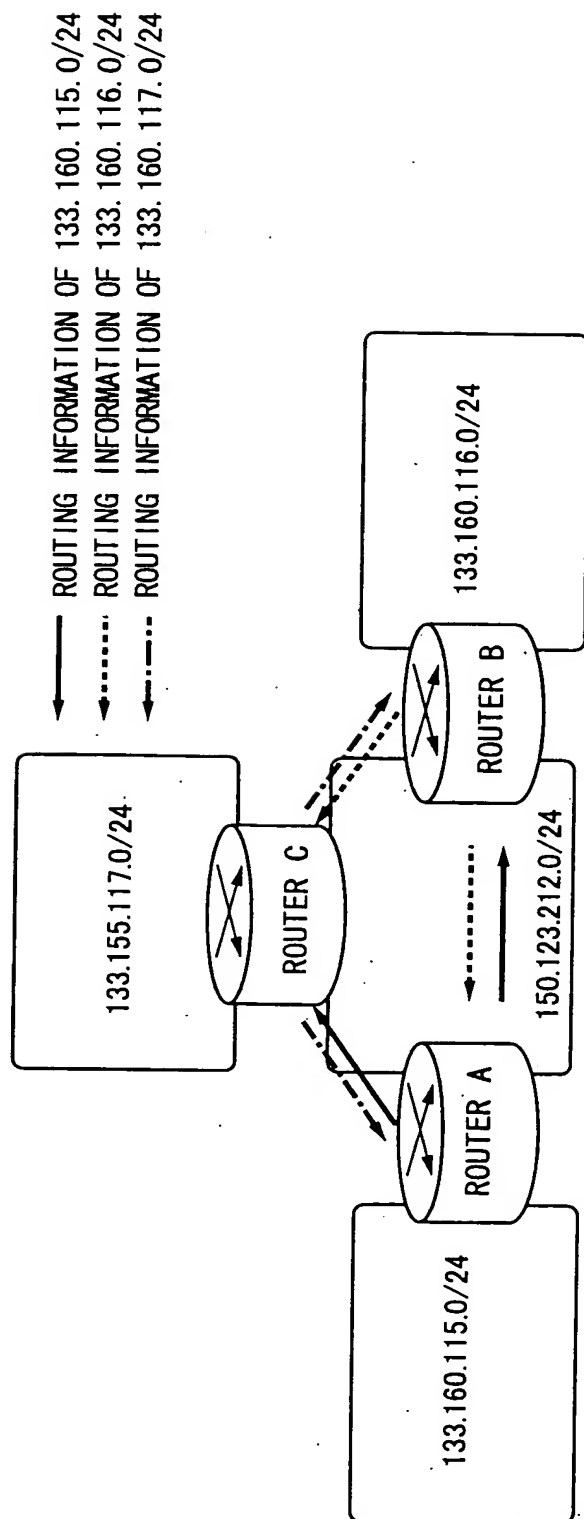


FIG.3

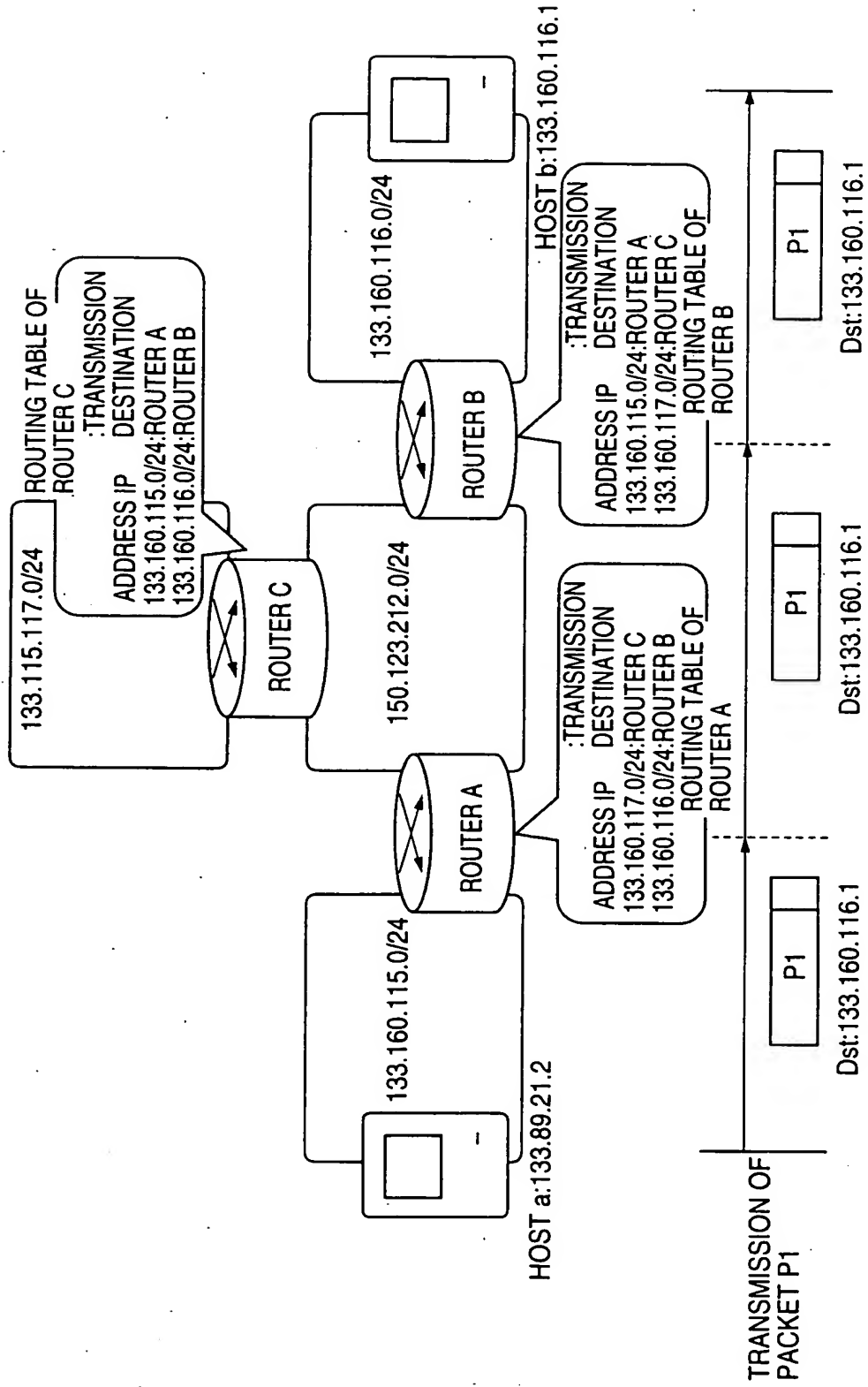
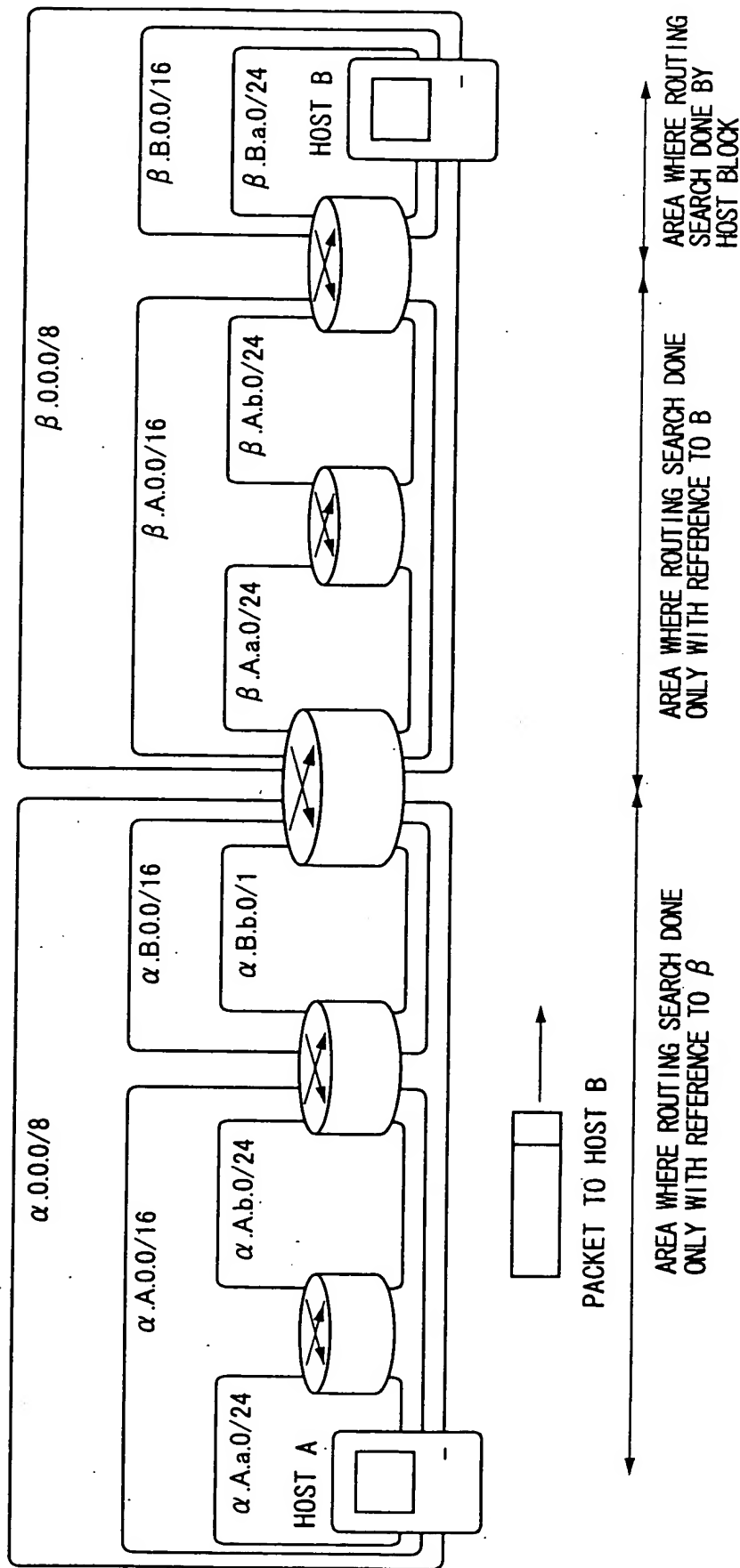


FIG. 4



10075430-021302

FIG.5

3	13	8	24	16	64 bits
FP	TLA	RES	NLA	SLA	Interface ID
	ID		ID	ID	

001                      Format Prefix (3 bit) for Aggregatable Global Unicast Addresss

TLA ID                      Top-Level Aggregation Identifier

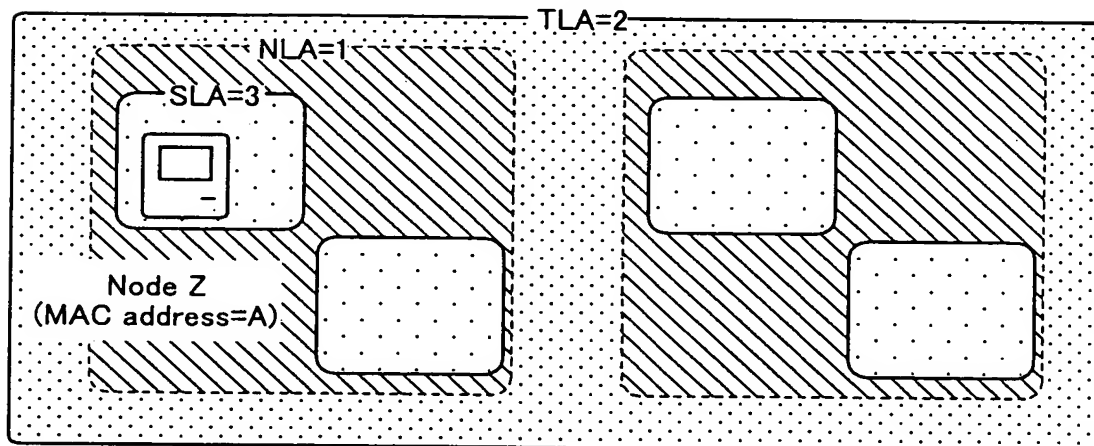
RES                      Reserved for future use

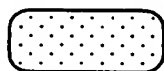
NLA ID                      Next-Level Aggregation Identifier


SLA ID                      Site-Level Aggregation Identifier

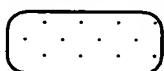
INTERFACE ID              Interface Identifier

FIG.6



 HIERARCHY OF TLA LEVEL

 HIERARCHY OF NLA LEVEL

 HIERARCHY OF SLA LEVEL

3	13	8	24	16	64 bits
FP	TLA	RES	NLA	SLA	Interface ID
	ID		ID	ID	=A
	=2		=1	=3	

IP ADDRESS OF NODE 2

FIG. 7

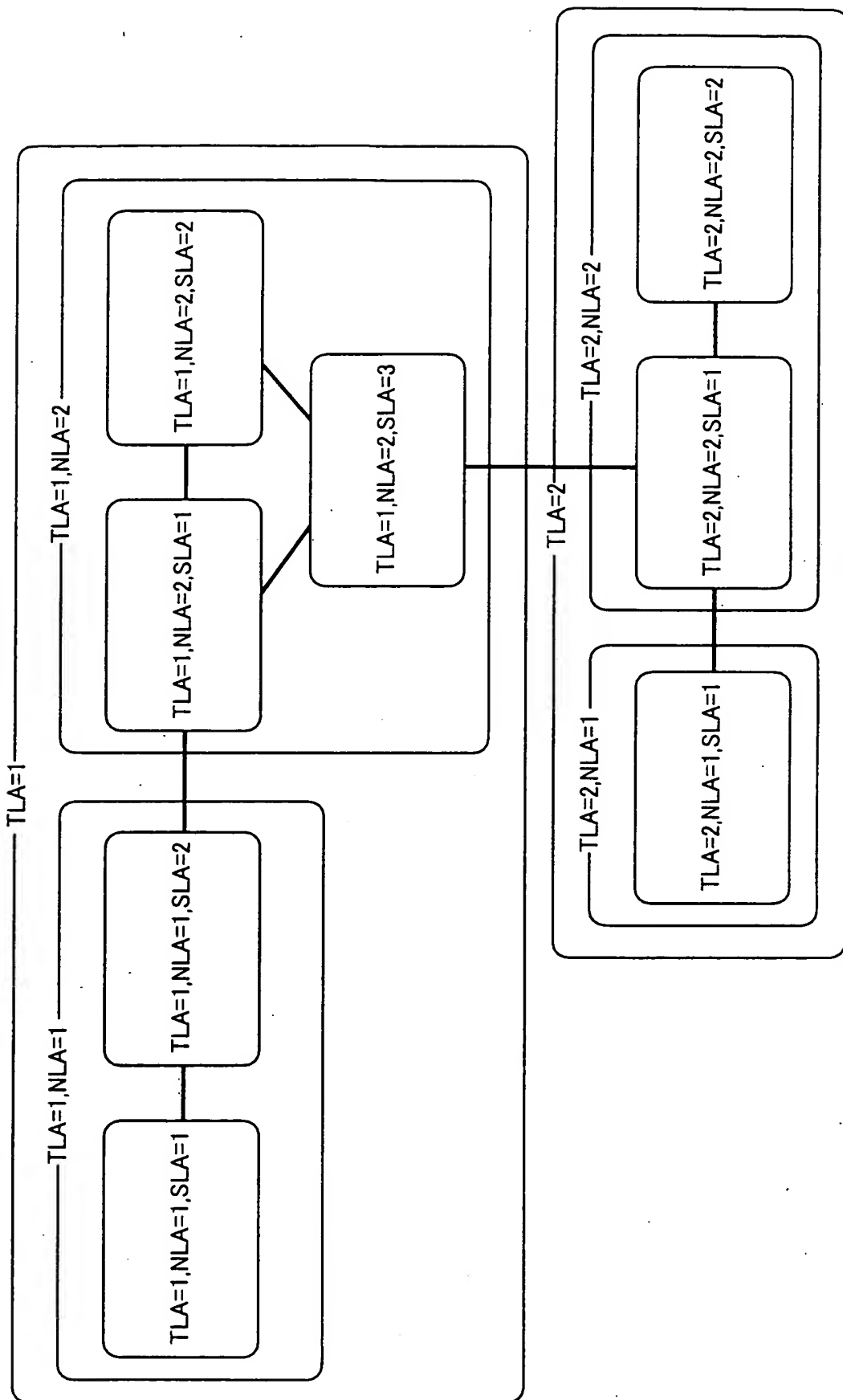
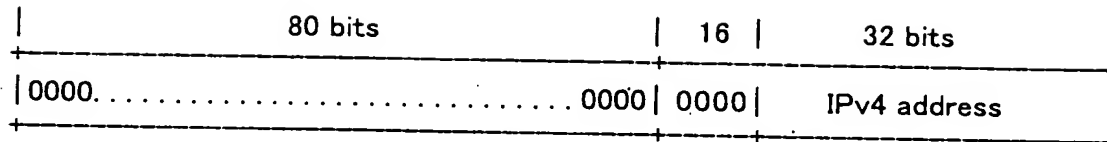


FIG.8



10075430-021302

# FIG.9

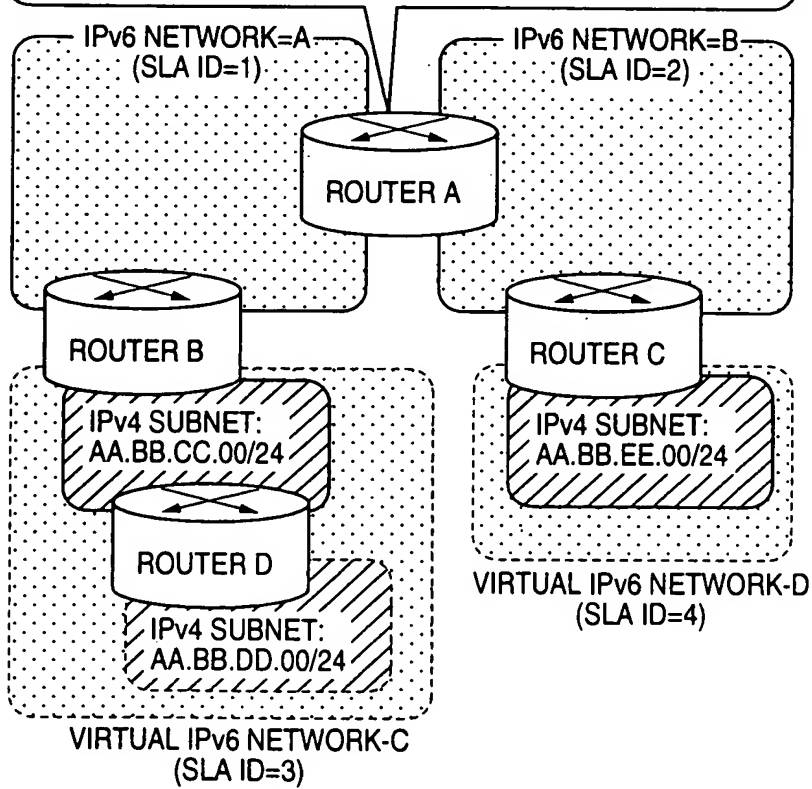
TLA ID=  $\alpha$

NLA ID=  $\beta$

## ROUTING TABLE OF ROUTER A

HIERARCHIAL ROUTING TABLE	
ADDRESS	NEXT ROUTER
SLA ID=3	ROUTER B
SLA ID=4	ROUTER C
SLA ID=1	DIRECT
SLA ID=2	DIRECT
⋮	⋮

CONVENTIONAL ROUTING TABLE	
ADDRESS	NEXT ROUTER
SLA ID=3	ROUTER B
AA.BB.CC.00/24	ROUTER B
SLA ID=3	ROUTER B
AA.BB.DD.00/24	ROUTER C
SLA ID=4	ROUTER C
AA.BB.EE.00/24	DIRECT
SLA ID=2	DIRECT
SLA ID=1	DIRECT
⋮	⋮



# FIG.10

3	13	8	24	16	64 bits
FP	TLA ID	RES	NLA ID	SLA ID	Interface ID All 0

IPv6 NETWORK ADDRESS

3	13	8	24	16	64 bits
FP	TLA ID	RES	NLA ID	SLA ID	Interface ID 32bit=0, AA.BB.CC.0

IPv4 NETWORK ADDRESS

3	13	8	24	16	64 bits
FP	TLA ID	RES	NLA ID	SLA ID	Interface ID Layer2 address

IPv6 HOST ADDRESS

FIG.11

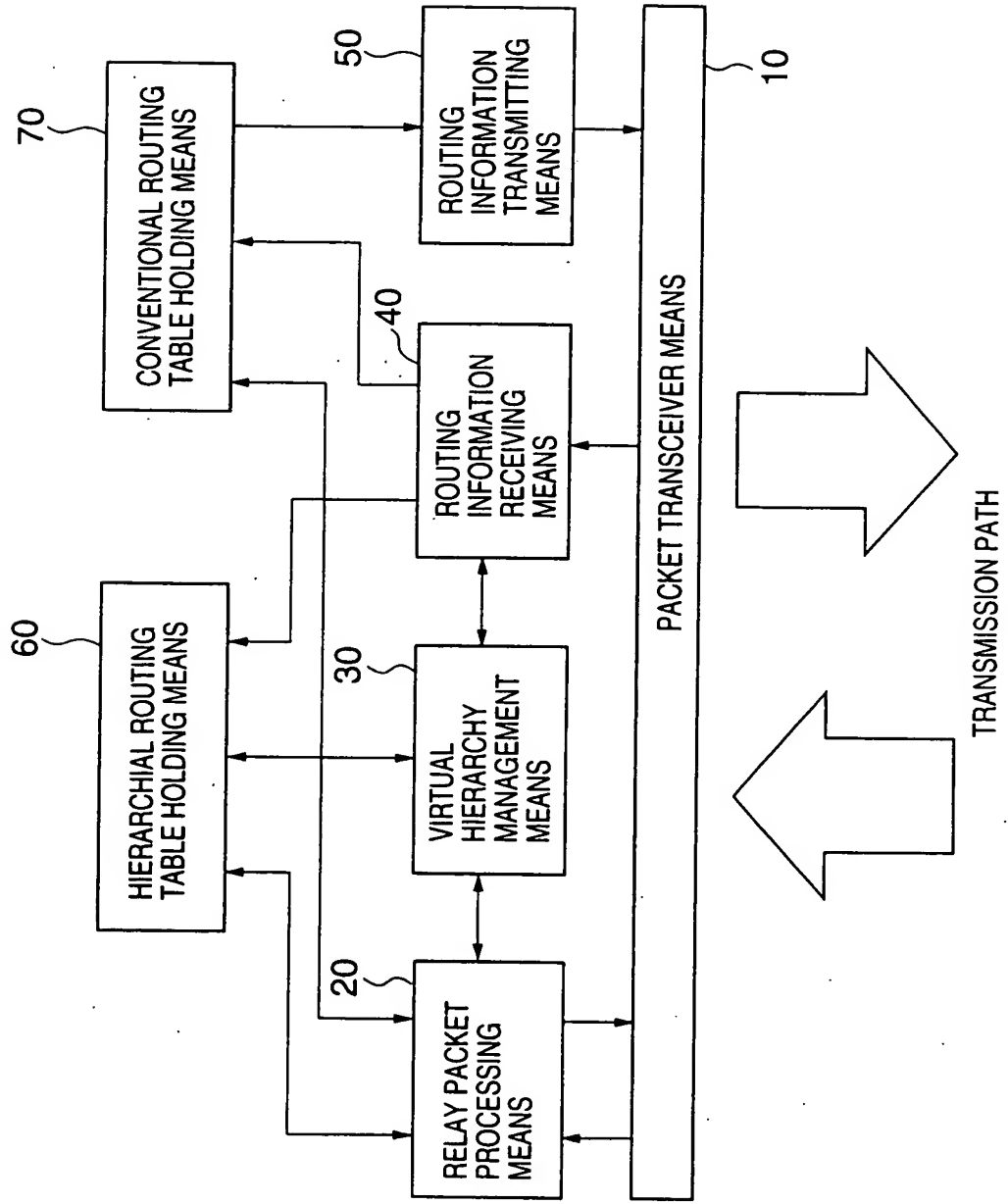
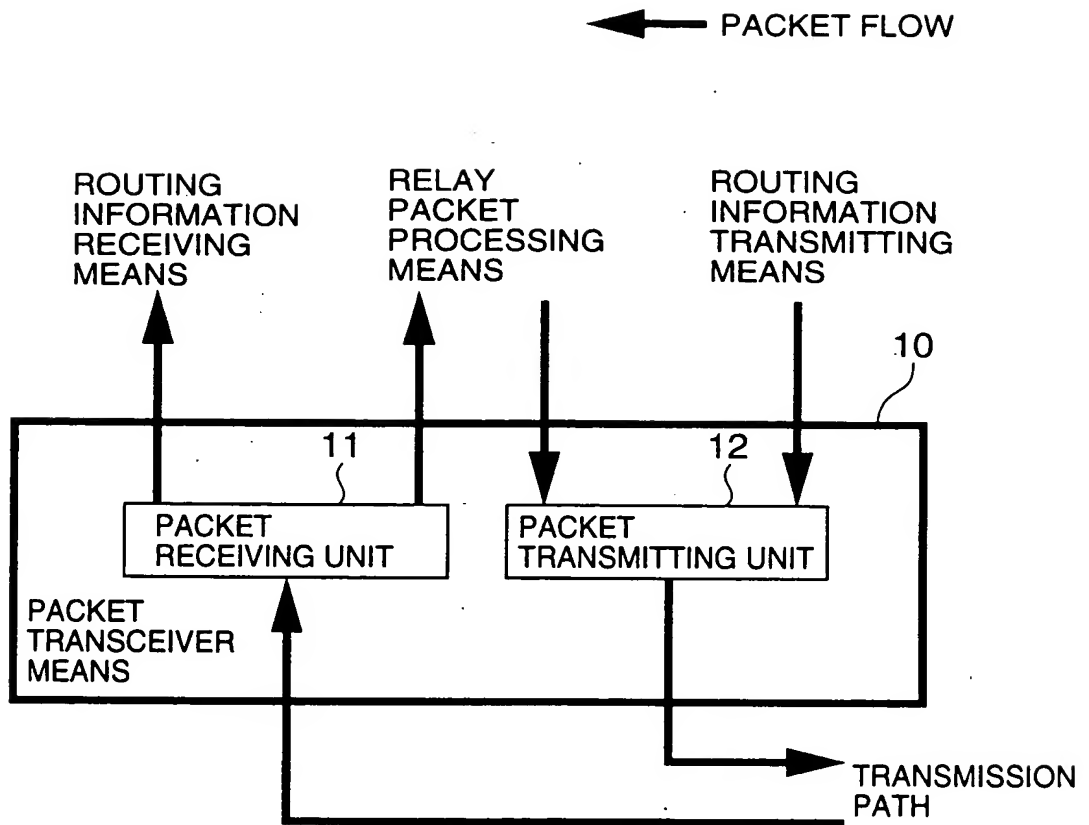


FIG.12



10075430-021302

FIG.13

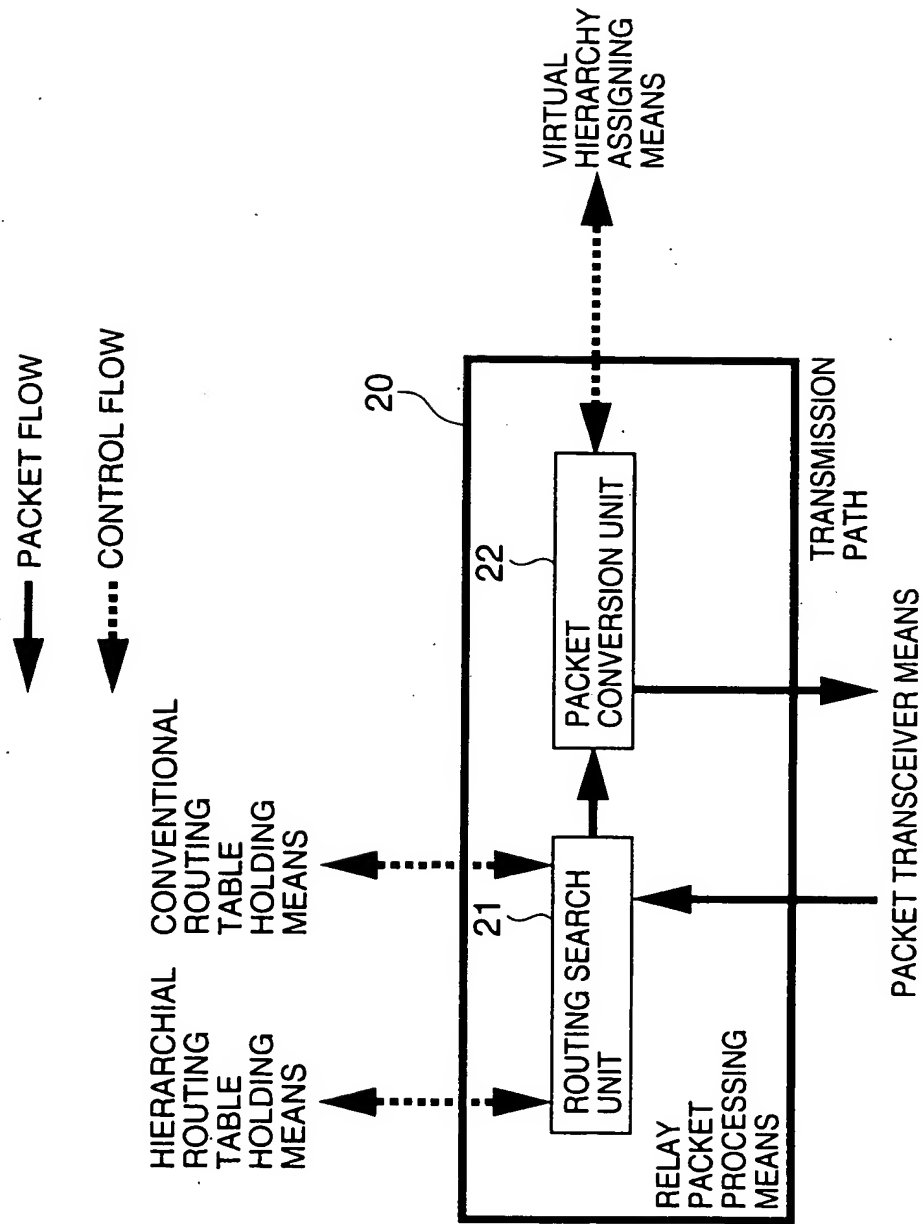


FIG.14

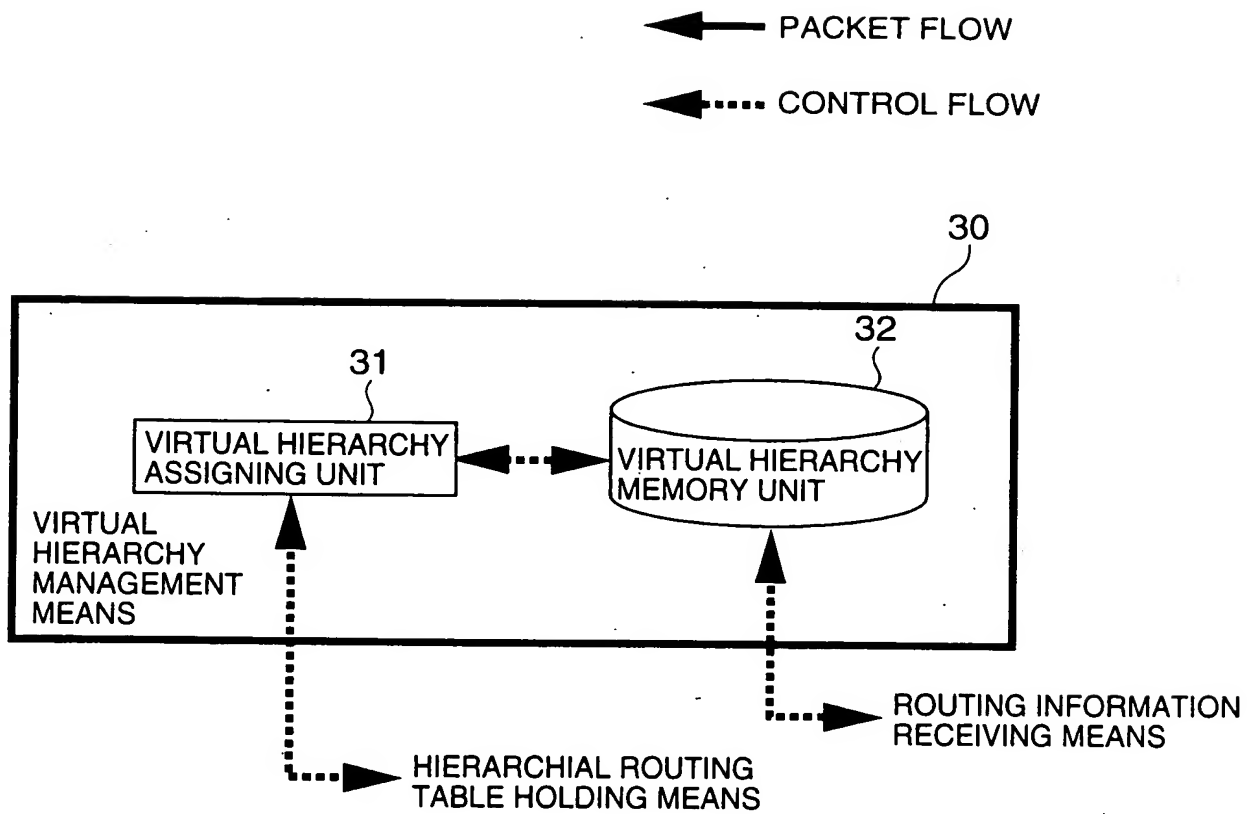


FIG.15

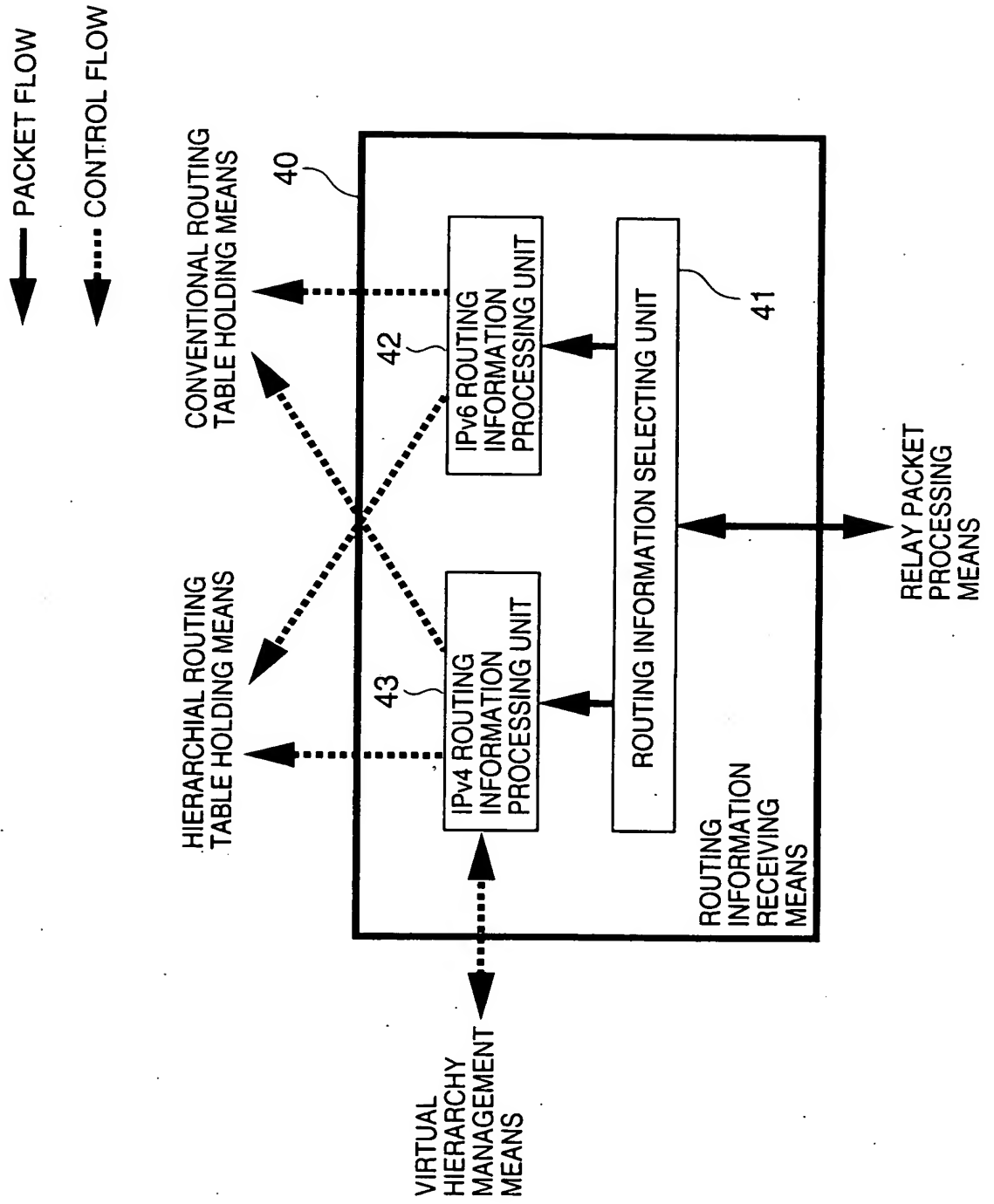
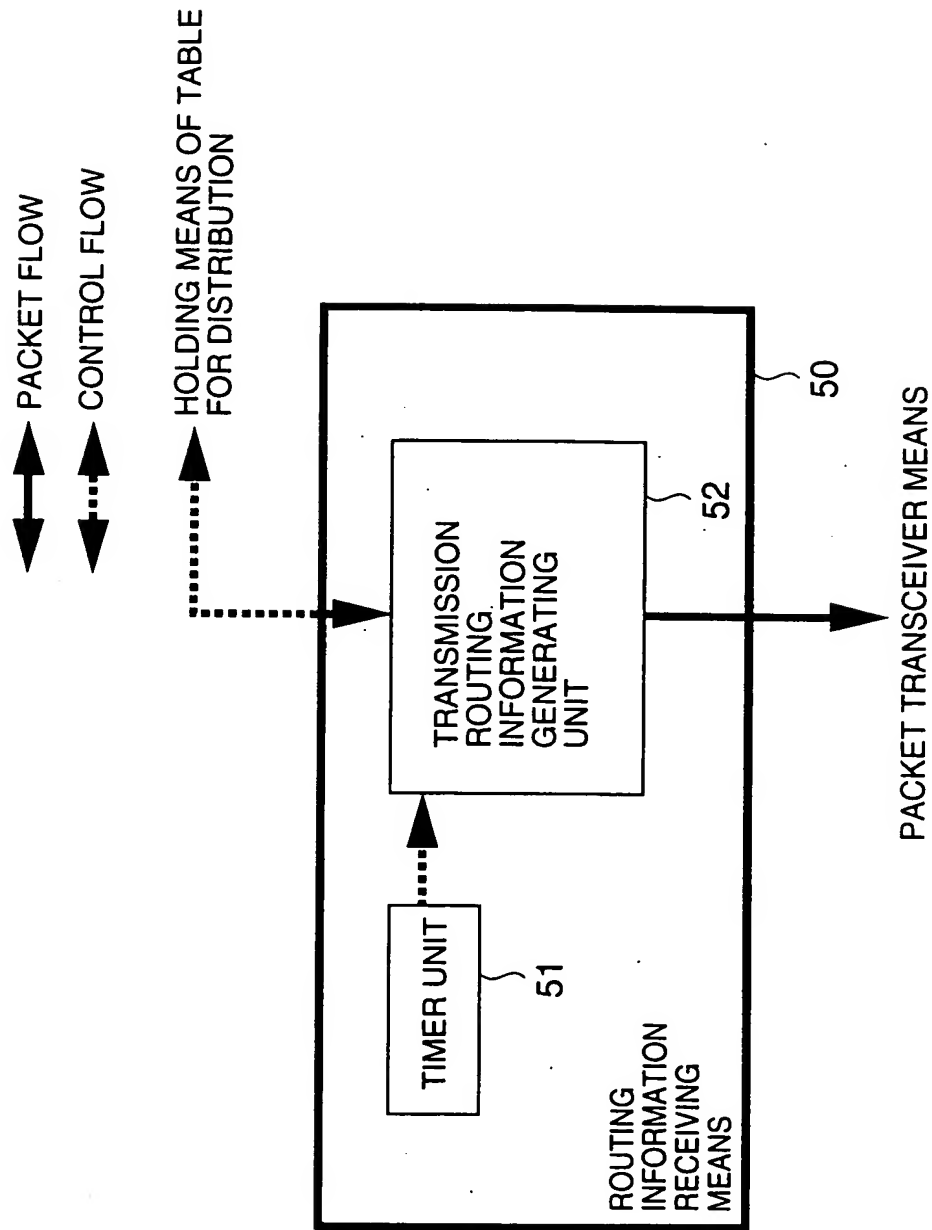


FIG.16



20075430-021302

FIG.17

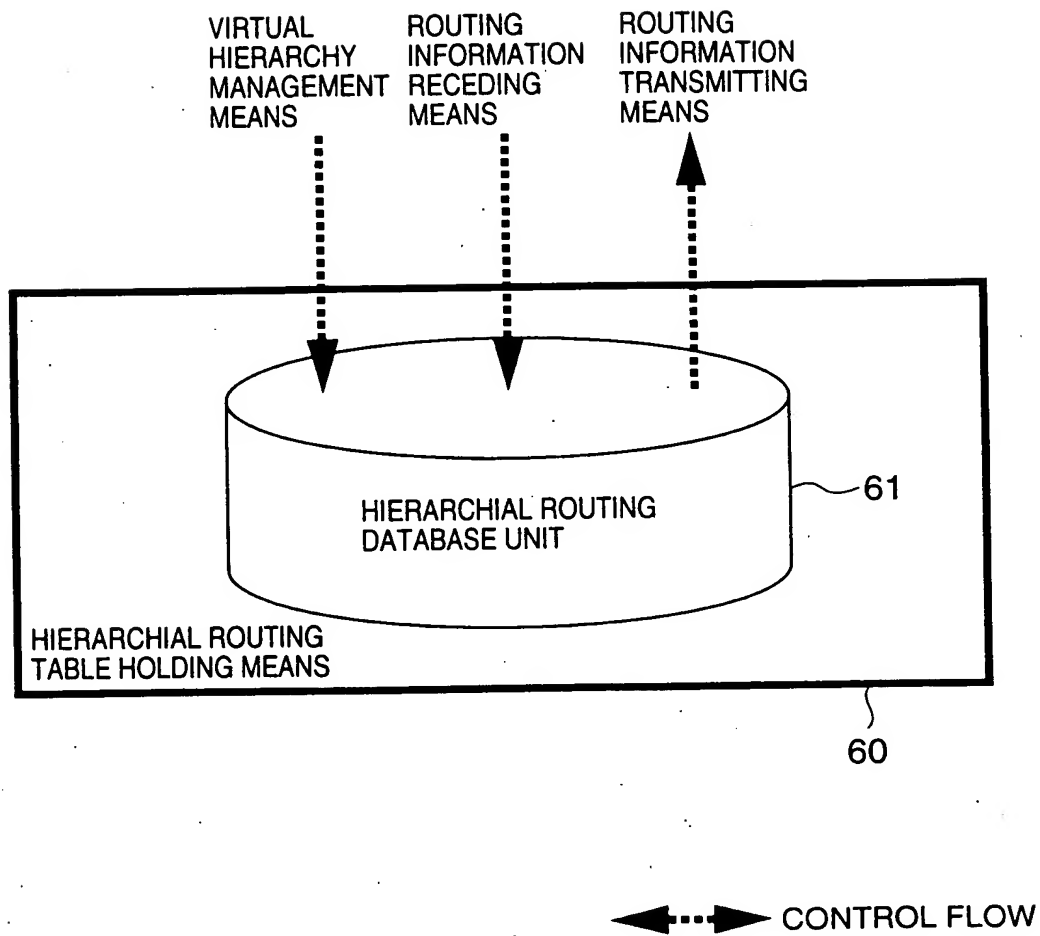
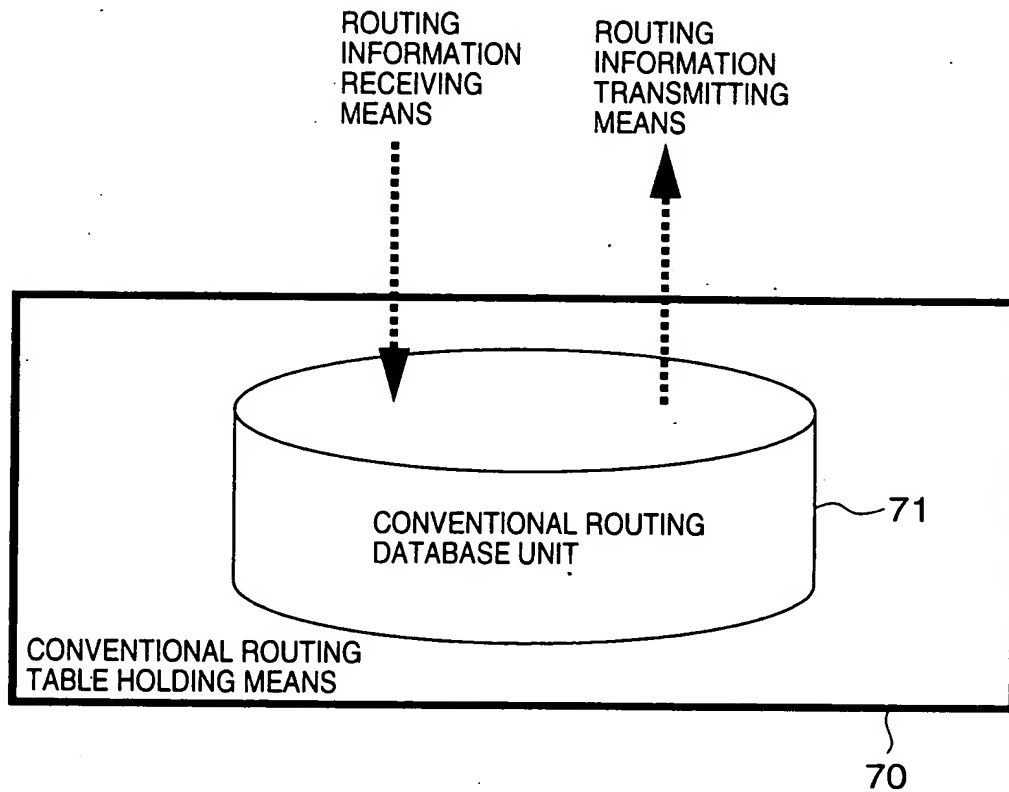
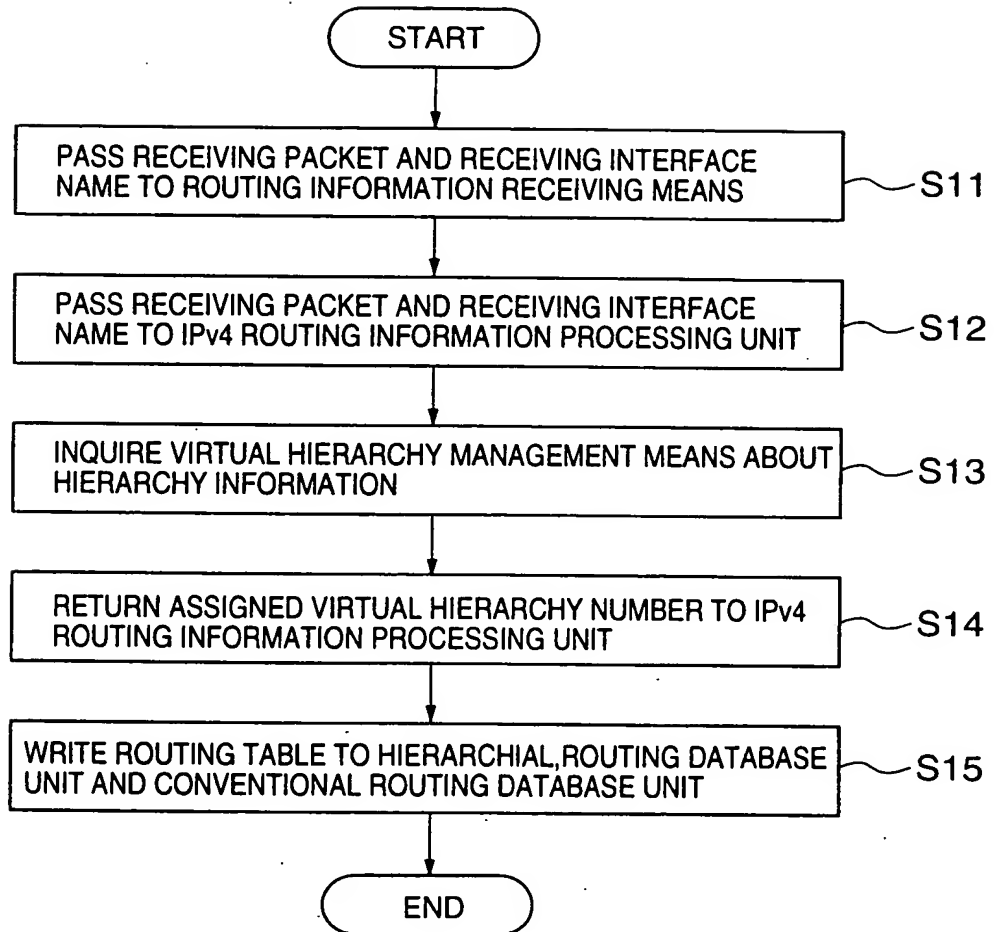


FIG.18



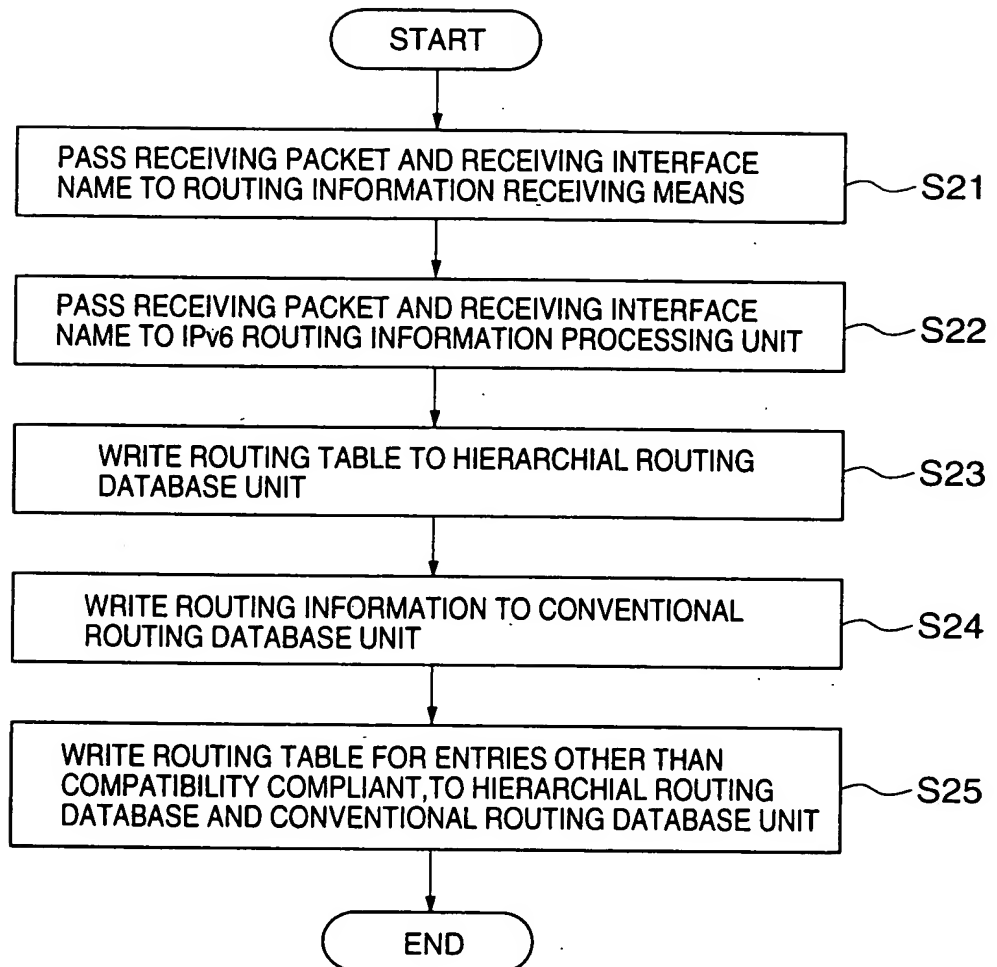
2025-04-30 02:13:02

FIG.19



20250301 09:54:30

FIG.20



20250430 08454007

FIG.21

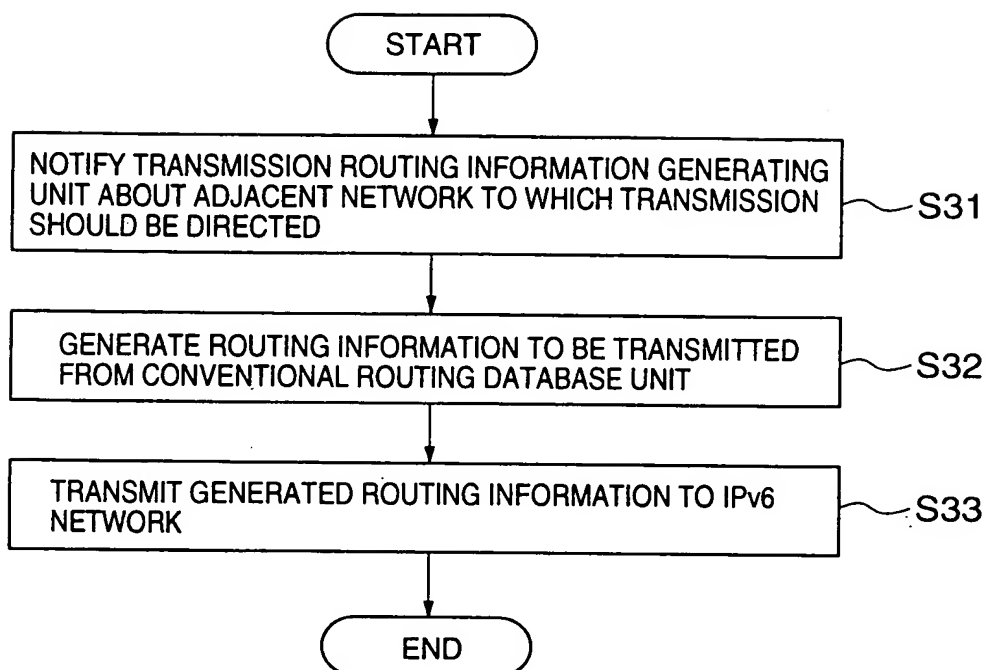


FIG.22

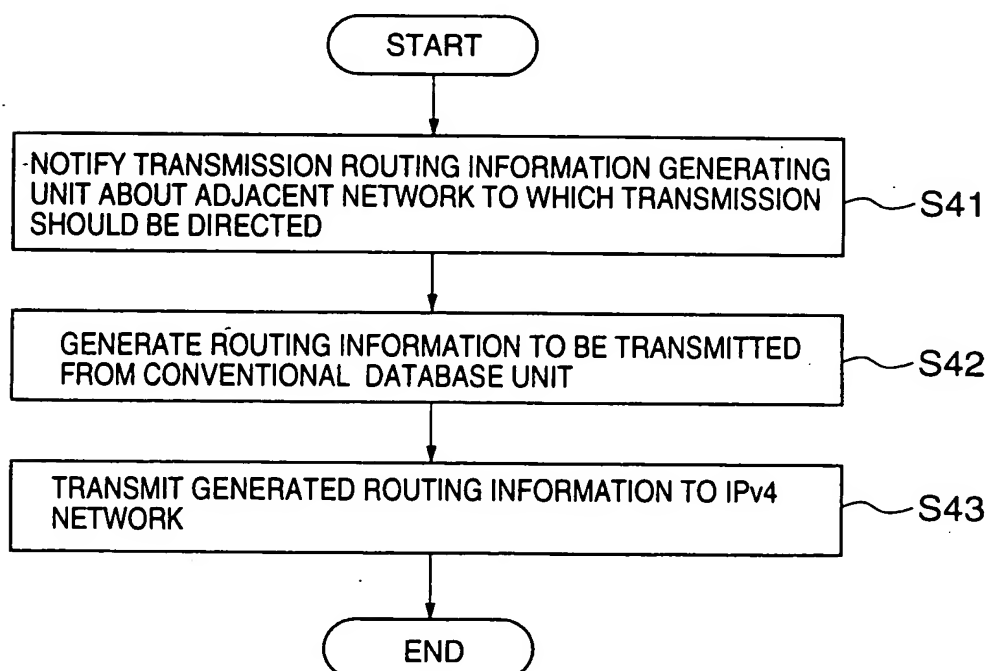


FIG.23

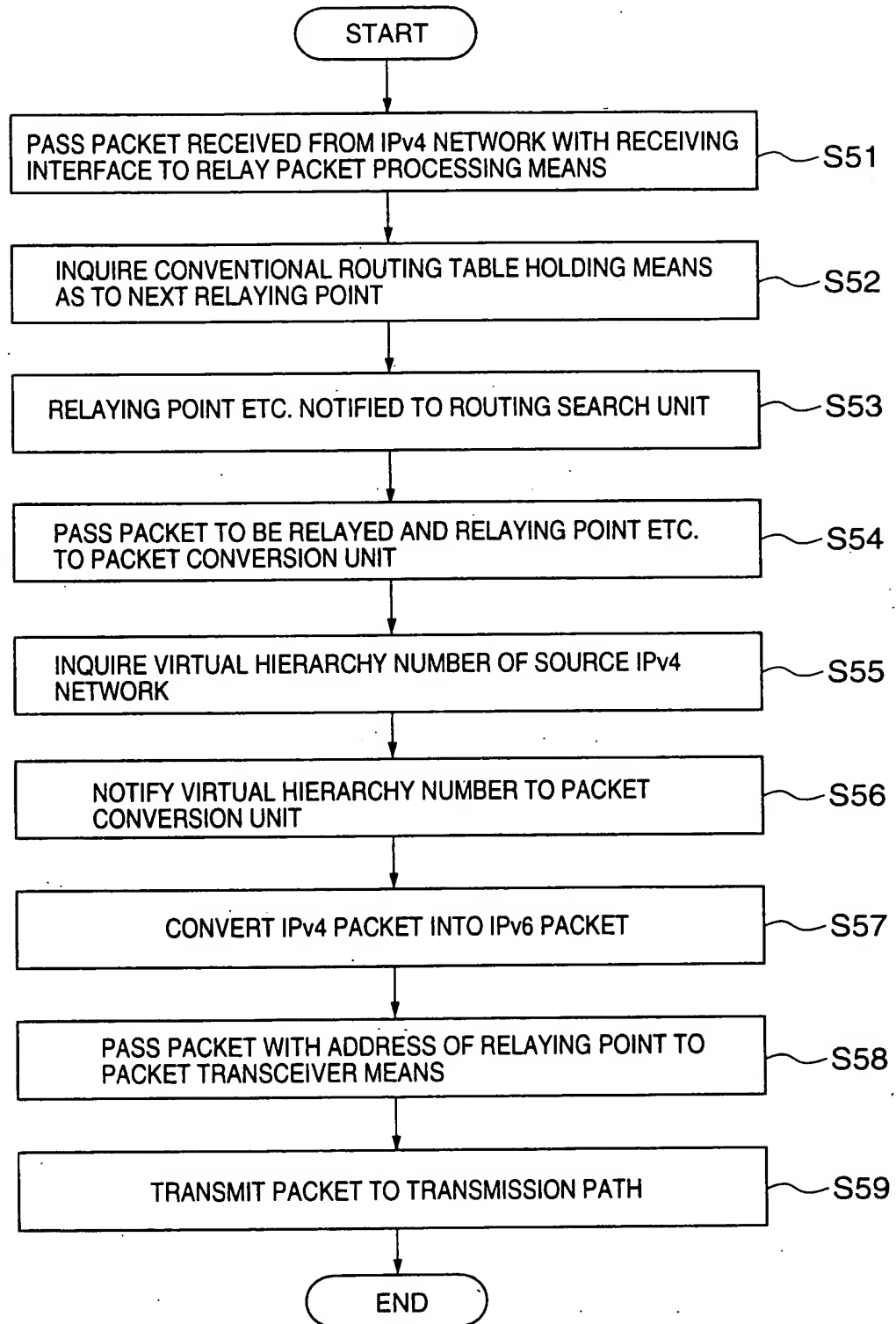


FIG.24

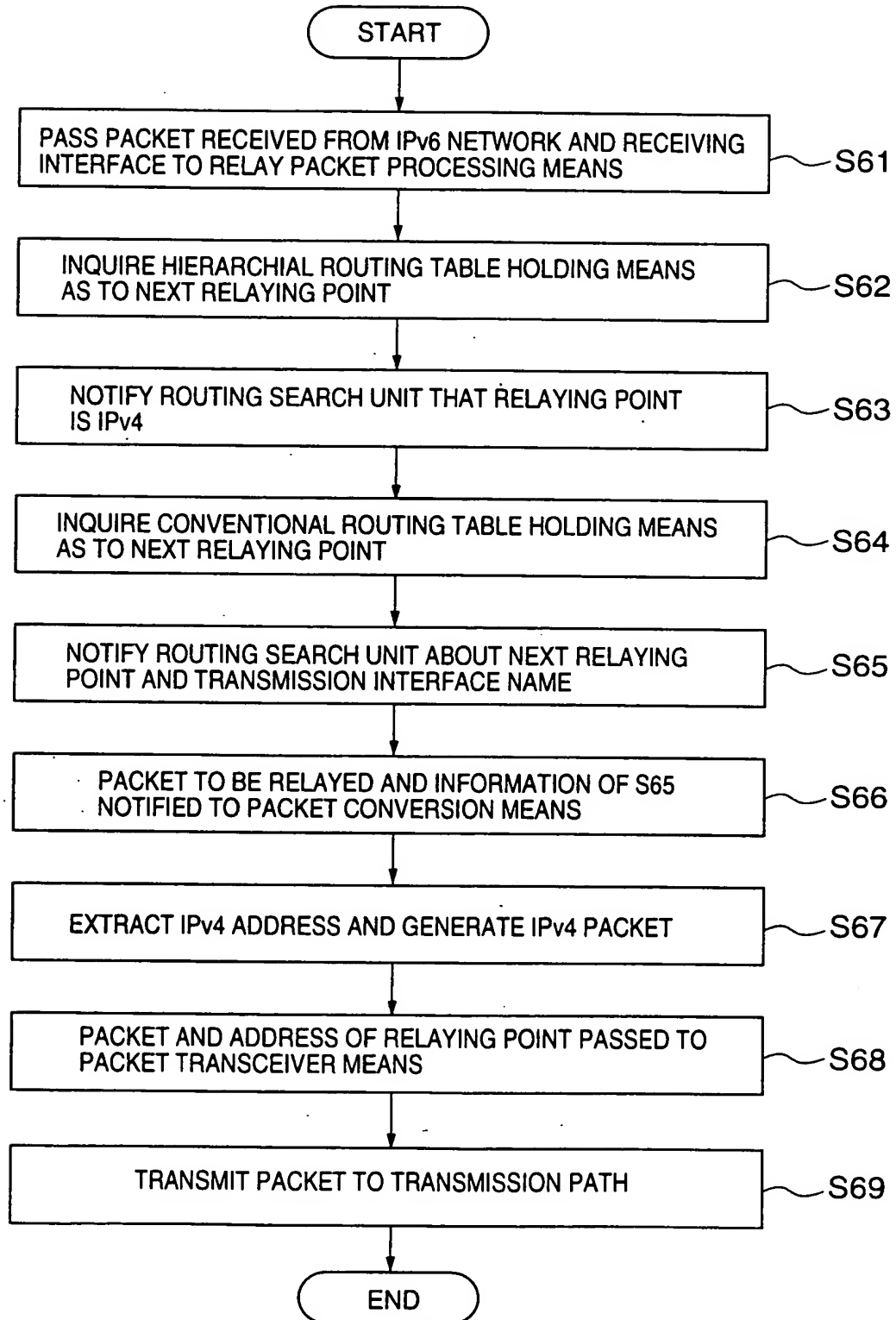
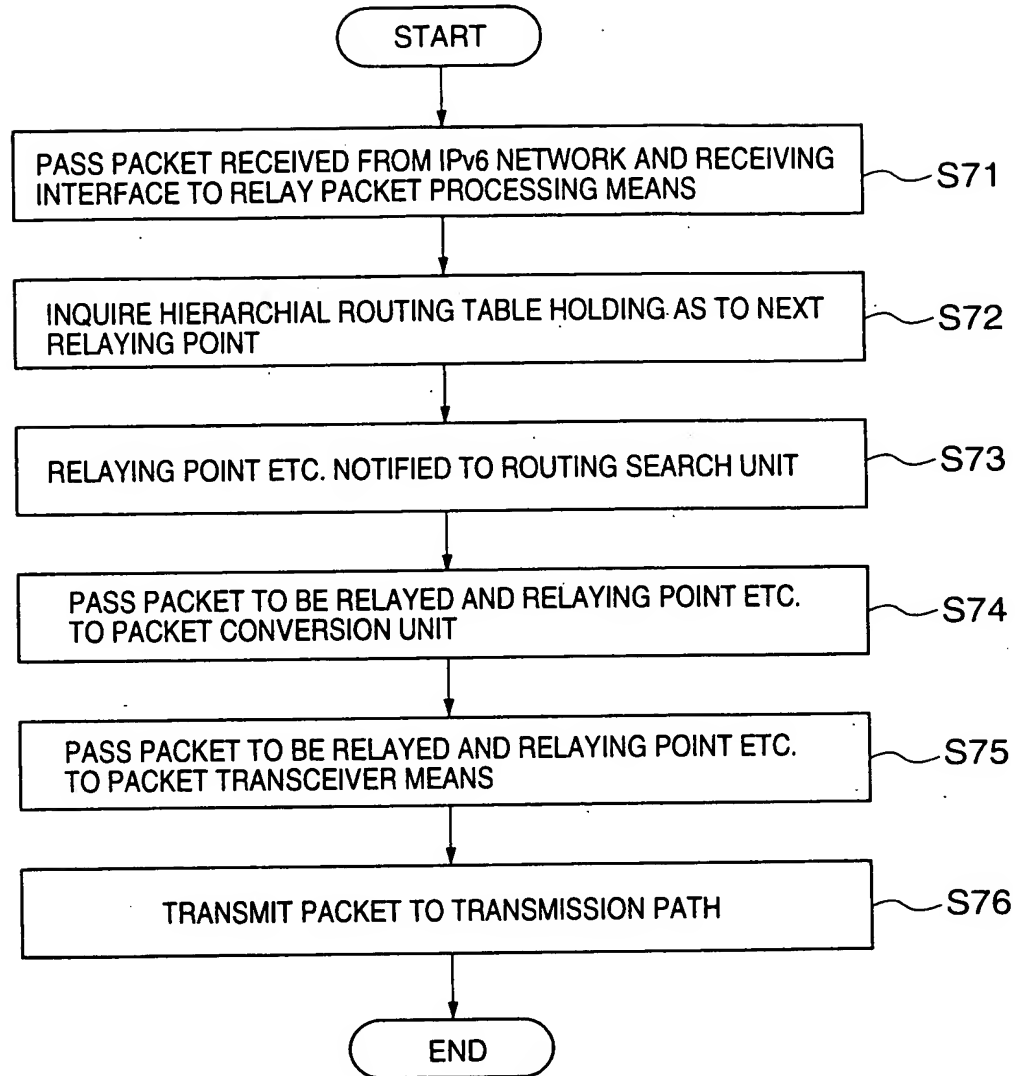
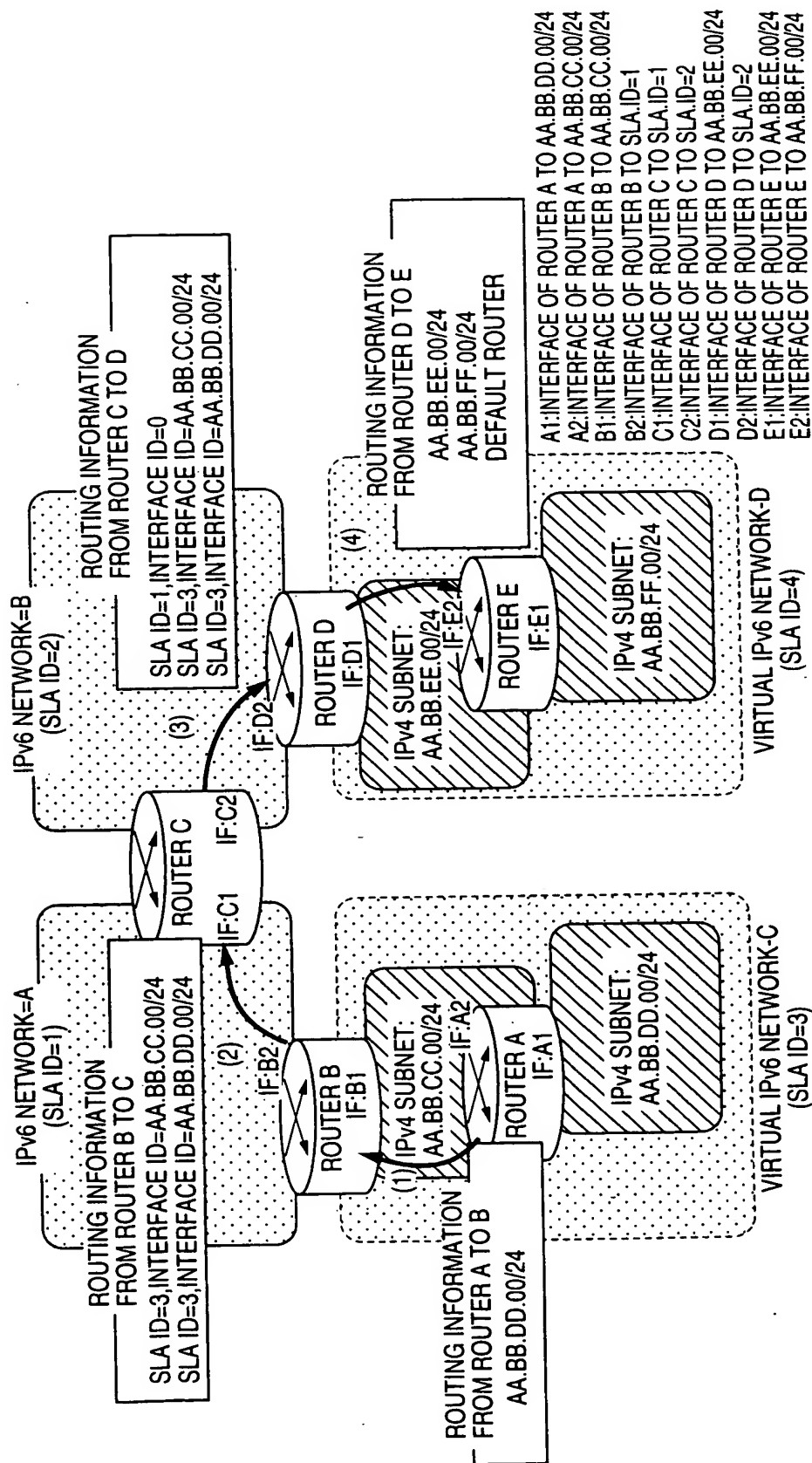


FIG.25



20250408 08:45:00

FIG.26



# FIG.27

## ROUTING TABLE OF ROUTER B

HIERARCHIAL ROUTING TABLE		CONVENTIONAL ROUTING TABLE	
ADDRESS	NEXT ROUTER	ADDRESS	NEXT ROUTER
SLA ID=3	IPv4	SLA ID=3	DIRECT(B1)
SLA ID=1	DIRECT(B2)	AA.BB.CC.00/24	DIRECT A(B1)
		SLA ID=3	DIRECT A(B1)
		AA.BB.DD.00/24	DIRECT (B2)
		SLA ID=1	DIRECT (B2)

TRANSMISSION INTERFACE  
NAME IN PARENTHESIS

# FIG.28

## ROUTING TABLE OF ROUTER C

TABLE GENERATED BASED ON  
ROUTING INFORMATION FROM  
ROUTER B

HIERARCHIAL ROUTING TABLE		CONVENTIONAL ROUTING TABLE	
ADDRESS	NEXT ROUTER	ADDRESS	NEXT ROUTER
SLA ID=3	ROUTER B(C1)	SLA ID=3	ROUTER B(C1)
SLA ID=1	DIRECT(C1)	AA.BB.CC.00/24	ROUTER B(C1)
SLA ID=2	DIRECT(C2)	SLA ID=3	ROUTER B(C1)
		AA.BB.DD.00/24	ROUTER B(C1)
		SLA ID=2	DIRECT A(C2)
		SLA ID=1	DIRECT (C1)

TRANSMISSION INTERFACE  
NAME IN PARENTHESIS

# FIG.29

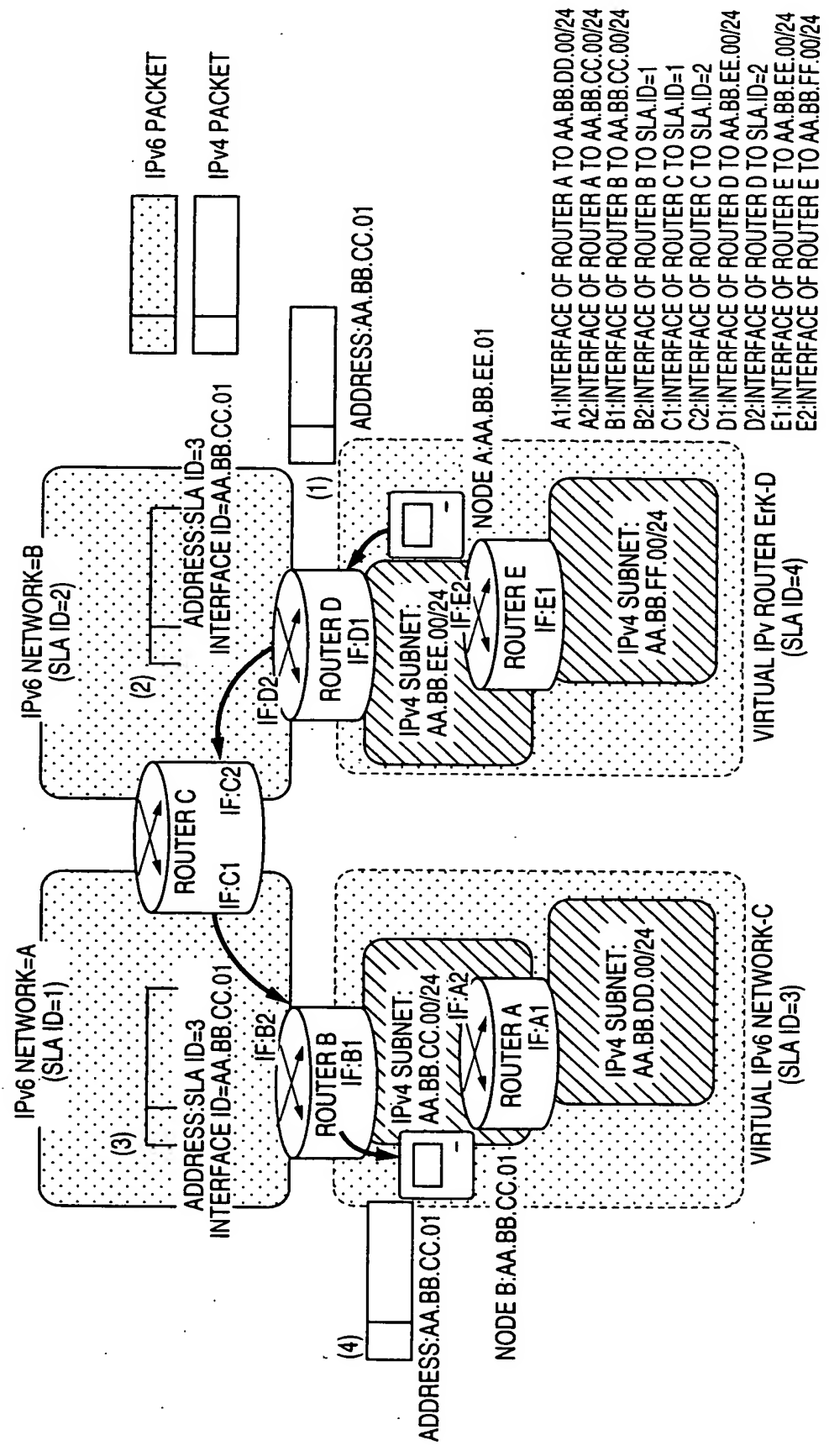
ROUTING TABLE OF ROUTER D

TABLE GENERATED BASED ON ROUTING INFORMATION FROM ROUTER C

HIERARCHIAL ROUTING TABLE		CONVENTIONAL ROUTING TABLE	
ADDRESS	NEXT ROUTER	ADDRESS	NEXT ROUTER
SLA ID=3	ROUTER C(D2)	SLA ID=3	ROUTER C(D2)
SLA ID=1	DIRECT C(D2)	AA.BB.CC.00/24	
SLA ID=2	DIRECT(D2)	SLA ID=3	ROUTER C(D2)
SLA ID=4	IPv4(D1)	AA.BB.DD.00/24	
		SLA ID=1	ROUTER C(D2)
		SLA ID=2	DIRECT(D2)
		SLA ID=4	DIRECT(D1)
		AA.BB.EE.00/24	

TRANSMISSION INTERFACE NAME IN PARENTHESIS

FIG.30



2025-04-10 09:43:02

FIG.31

ROUTING TABLE OF ROUTER D

HIERARCHIAL ROUTING TABLE

ADDRESS	NEXT ROUTER
SLA ID=3	ROUTER C(D2)
SLA ID=1	ROUTER C(D2)
SLA ID=2	DIRECT(D2)
SLA ID=4	IPv4(D1)

TRANSMISSION INTERFACE  
NAME IN PARENTHESIS

CONVENTIONAL ROUTING TABLE

ADDRESS	NEXT ROUTER
SLA ID=3	ROUTER C(D2)
AA.BB.CC.00/24	ROUTER C(D2)
SLA ID=3	ROUTER C(D2)
AA.BB.DD.00/24	ROUTER C(D2)
SLA ID=1	ROUTER C(D2)
SLA ID=2	DIRECT(D2)
SLA ID=4	DIRECT(D1)
AA.BB.EE.00/24	DIRECT(D1)

MATCHED ENTRY IN  
ROUTING SEARCH

FIG.32

ROUTING TABLE OF ROUTER C

HIERARCHIAL ROUTING TABLE

ADDRESS	NEXT ROUTER
SLA ID=3	ROUTER B(C1)
SLA ID=1	DIRECT(C1)
SLA ID=2	DIRECT(C2)

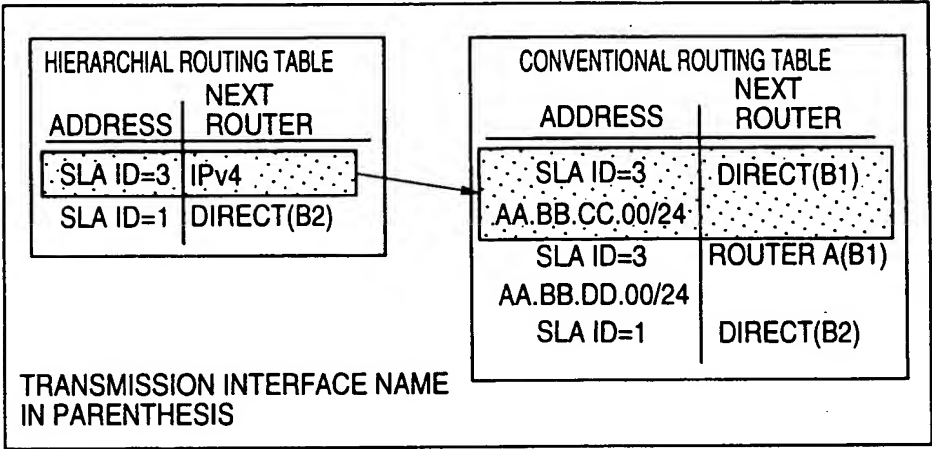
TRANSMISSION INTERFACE  
NAME IN PARENTHESIS

CONVENTIONAL ROUTING TABLE

ADDRESS	NEXT ROUTER
SLA ID=3	ROUTER B(C1)
AA.BB.CC.00/24	ROUTER B(C1)
SLA ID=3	ROUTER B(C1)
AA.BB.DD.00/24	ROUTER B(C1)
SLA ID=2	DIRECT(C2)
SLA ID=1	DIRECT(C1)

FIG.33

ROUTING TABLE OF ROUTER B



40075430-001302